

## Medicine use in older adults - part two

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## **Medicine use in older adults (Part 2)**

Maurice Hall and Lezley-Anne Hanna

Lecturer (Education) and Senior Lecturer (Education), respectively; Queen's University Belfast

### **After completing this part of the module you will:**

- Appreciate why older adults should be considered as a special patient group with regard to medicines use
- Understand the general principles that can be applied when prescribing or reviewing medicines use in older adults
- Be able to identify problem/inappropriate medicines in older adults
- Define specific ways that pharmacists can optimise the use of medicines older adults

Demographic changes and an ageing population are key considerations for the Government and healthcare professionals when planning effective and appropriate healthcare. As previously outlined in the first part of the module, older adults have a higher prevalence of long-term conditions and undergo anatomical, physiological, psychological and sociological changes due to the ageing process. They are more likely to be prescribed medication and to take more medicines than younger adults which puts them at a higher risk of suffering adverse effects. Moreover, pharmacokinetic and pharmacodynamics changes caused by the ageing process further augments the risk of adverse effects from medicines. Unfortunately, healthcare practitioners may not recognise that a patient's symptoms could be iatrogenic and may instead prescribe further medicines (this is known as 'incremental prescribing' or the 'prescribing cascade') rather than conducting a thorough assessment to reach a differential diagnosis.

Moreover, according to the National Institute for Health and Care Excellence (NICE) and a Cochrane systematic review, between a third and a half of all medicines prescribed for long-term conditions are not taken as recommended.<sup>1,2</sup> Non-adherence can result in a lack of improvement or deterioration in health and has the potential to have significant economic implications. Non-adherence is broadly divided into two main categories: unintentional and intentional. Unintentional non-adherence happens when the patient wants to follow the agreed treatment strategy but can't do this due to reasons that are beyond their control (such as cognitive impairment and problems preventing them from physically using the treatment). Intentional non-adherence occurs when the patient actively decides not to follow the treatment recommendations. According to NICE, addressing non-adherence should start with an exploration of patients' views of medicines and

the reasons why they may not want or are unable to use them. Comprehensive information about adherence is provided by NICE and a Cochrane Systematic Review is available detailing interventions for enhancing medication adherence.<sup>1,2</sup>

Various tools and criteria are available to help with prescribing and identifying potentially inappropriate medication use in older adults. Examples include the Beers Criteria (initially developed by Mark Beers),<sup>3</sup> the Inappropriate Prescribing in the Elderly Tool (IPET),<sup>4</sup> and the Screening Tool of Older Person's Prescriptions (STOPP) and Screening Tool to Alert doctors to Right Treatment (START).<sup>5</sup> The STOPP/START criteria have been used to review the medication profiles (acute and long-term conditions) of older patients living in the community-setting in Europe, Asia and the United States of America. A systematic review conducted by Hill-Taylor *et al.* (2013) concluded that while the STOPP/START criteria appear to be more sensitive than the Beers criteria (2002 version), limited evidence exists regarding the clinical and economic impact.<sup>6</sup> Other useful and reputable resources relating to the healthcare of older adults are readily available and include: NICE, Age UK, Department of Health (including the 2001 National Service Framework for Older People), British Dental Association, British Heart Foundation, Diabetes UK, Macmillan Cancer Support and the Alzheimer's Society. However, it must be remembered that older adults are seldom enrolled in clinical trials and therefore the results/evidence may not be applicable in practice. Indeed, many clinical trials and guidelines do not typically consider the use of medicines in the context of patients with multi-or co-morbidities, making evidence-based clinical decision-making more challenging in this population.

**General tips:<sup>7,8</sup>**

- The dose needed may be smaller than an adult dose and dose titration in small increments may be required i.e. 'start low and go slow'
- Directions should facilitate the safe and effective use of medicines. The dose and dosing frequency should be included on prescriptions (or discussed during an over-the-counter consultation) and imprecise instructions like 'as directed', 'when required' avoided
- Ascertain whether the medicine is needed. Weigh up the benefits and risks and consider the evidence-base in the context of the older patient in tandem with patients' opinions. Numerous minor ailments are self-limiting and over-the-counter medicines may lack robust evidence of effectiveness (such as cough medicines). Other problems could potentially be managed using non-pharmacological measures (such as insomnia). Patients should be aware of the current evidence-base to enable informed decisions to be made. Prior to adding in

another medicine to a patient's regimen to manage new symptoms, be mindful of iatrogenic causes

- Try to avoid complicated dosing regimens. Use regimens with the lowest number of different agents and with once or twice daily dosing intervals
- Many people will take medicines unnecessarily and therefore regular review is important. Consider if medicine(s) can be stopped, appreciating that palliative care applies to other chronic conditions, not just cancer
- Ensure therapy is not needlessly duplicated and be mindful that drugs that increase the anticholinergic burden have sedative/hypnotic or hypotensive effects. Remember to consider the possibility of renal impairment and the implications this will have on medicine choice
- For older adults with dysphagia (a common complication of a stroke) consider the formulation and/or giving advice about taking medicines with plenty of water whilst sitting upright (medicines that remain in the oromuscosa or oesophagus for a prolonged time may lead to ulceration). Non-viscous liquid medicines can increase coughing and aspiration risks (hence the rationale for thickening agents/fluids); it may be appropriate to investigate whether the tablet or capsule can be opened and sprinkled onto yoghurt, or swallowed whole when mixed with some food, prior to assuming a liquid formulation is always better/necessary

Table 1 provides examples of medicines to be avoided or used with caution in older adults. This information should not be used in isolation of other relevant resources such as NICE Clinical Guidelines, the BNF or manufacturers' information.

Table 1 Examples of medicines to be avoided or used with caution in older adults <sup>7,8</sup>

Drugs to avoid/use with caution	Rationale
Amiodarone	Higher risk of adverse effects than other similar medicines
Angiotensin Converting Enzyme (ACE) inhibitors or Angiotensin Receptor Blockers (ARBs) Aldosterone antagonists	Risk of causing/exacerbating hyperkalaemia which can lead to arrhythmias but useful in diabetes with evidence of renal disease
Anticholinergics (such as antimuscarinics and 1 <sup>st</sup> generation antihistamines) Aluminium-containing antacids Verapamil Opiates	Risk of causing/exacerbating constipation Anticholinergic medicines can also exacerbate glaucoma and cognitive impairment, and cause urinary retention, sedation. [High-strength opiates are necessary for moderate-severe pain where paracetamol or low strength opioids are ineffective]
Anticoagulants and antiplatelets	Care about long-term use. Risk of bleeding, particularly if used in combination (or with NSAIDs).

	<p>If warfarin is to be prescribed, patients should understand why the drug is needed, dosing, the importance of monitoring and other safety issues.</p> <p>(Risk of bleeding applies to direct thrombin inhibitors or Factor Xa inhibitors; extent depends on creatinine clearance)</p>
Antidepressants	<p>Tricyclic antidepressants: similar efficacy to SSRIs but more likely to be discontinued due to side-effects; toxicity in overdose is also an issue.</p> <p>Serotonergic agents may cause serotonin syndrome and agitation.</p> <p>Increased incidence of falls</p> <p>Hyponatraemia has been reported more frequently with SSRIs than with others (signs: drowsiness, confusion, or convulsions)</p>
Antidiabetic medicines	<p>Long-acting oral hypoglycaemics such as chlorpropamide and glibenclamide should be avoided due to the significant risk of hypoglycaemia.</p> <p>Risk of cardiac effects with thiazolidinediones</p>
Antipsychotics	<p>Some have anticholinergic effects, there is a risk of stroke and death with risperidone</p> <p>Increased incidence of falls</p>
Benzodiazepines	<p>Risk of prolonged sedation, confusion, increased incidence of falls. Risk of withdrawal syndrome if stopped suddenly</p>
Bisphosphonates	<p>Long-term use increases the risk of serious gastrointestinal disturbances including oesophagitis and ulceration, osteonecrosis of the jaw and atypical stress fractures</p> <p>Still may be required (for example, due to long-term systemic corticosteroid therapy)</p>
Colchicine	<p>Risk of toxicity (risk depends on creatinine clearance)</p>
Digoxin	<p>Increased risk of adverse effects, including toxicity (high strengths like 250 micrograms/day are likely to cause toxicity).</p>
Diuretics	<p>Loop diuretics may exacerbate incontinence; more effective and safer options are available. Thiazides may precipitate gout and exacerbate hypokalaemia, hyponatraemia, hypocalcaemia</p> <p>Diuretics are overused in older adults; when used to treat hypertension or cardiac failure, review regularly.</p>
Domperidone	<p>Risk of cardiac side effects</p>
Non-steroidal anti-inflammatory drugs (NSAIDs)	<p>Risk of cardiac side-effects, gastrointestinal problems including bleeding, and deterioration in renal function (combining NSAIDs and ACE inhibitors in older patients can be risky since their combined effect on renal cortical perfusion and function can result in significant renal impairment).</p>
Proton Pump Inhibitors (PPIs)	<p>Be mindful that PPIs may be a possible risk factor for <i>C difficile</i> infection (care in patients at high risk of <i>C difficile</i>).</p> <p>However, PPIs are beneficial for various indications including the prevention/treatment of medicine-induced peptic ulcers.</p>
Quinine sulphate	<p>Limited benefit of using long-term and risk of adverse effects (particularly with high doses)</p>
Stimulant Laxatives	<p>May exacerbate bowel dysfunction</p>
Theophylline	<p>Increased risk of adverse effects due to narrow therapeutic index/window</p>

Given that older adults are more likely to have chronic medical conditions, and hence have a corresponding greater need for medicines, they are frequently in contact with community pharmacists. Examples of community pharmacy services that are relevant for older adults, among others, are outlined below:

#### *Over-the-counter consultations*

With regard to counter-prescribing for older adults with over-the-counter (OTC) medicines, several of the medicines listed in Table 1 are also available over the counter and therefore the same caution should be exercised. Examples include:

- sedating antihistamines found in cough and cold preparations and travel sickness tablets
- antimuscarinics (hyoscine) present in irritable bowel syndrome and travel sickness preparations
- opioids (such as codeine) used as cough suppressants and for analgesia
- some NSAIDs that are available as topical and oral preparations (mainly ibuprofen since naproxen is indicated for primary dysmenorrhoea which would not be applicable to older adults). Oral diclofenac was reclassified to prescription-only status in 2015 due to cardiac risks
- aspirin and stimulant laxatives such as senna and bisacodyl

Moreover, several OTC products are not licensed for use in older adults. For example, Imigran Recovery is licensed for use in adults aged 18-65 years only,<sup>9</sup> Canesten vaginal thrush products are for use in people aged 16 to 60 years (medical advice should be sought if over 60 years),<sup>9</sup> Flomax Relief MR is licensed for men aged 45 to 75 years.<sup>9</sup> Furthermore, OTC proton-pump inhibitors and ranitidine usually include a warning to seek medical advice if the person is middle-aged or older with new or recently changed symptoms.<sup>9</sup> The Electronic Medicines Compendium is a key resource for manufacturers information (Summary of Product Characteristics and Patient Information Leaflet).<sup>9</sup>

#### *Dispensing prescriptions and providing counselling*

Many opportunities exist for community pharmacists to engage with older adults at the point of dispensing. Questioning enables problems, such as adverse drug reactions, to be quickly identified and appropriate actions taken. It also allows pharmacists to gauge whether the formulation, packaging and labelling of the medicine is appropriate for the patient. As some people will not be able to get to the pharmacy, it is important to ensure that carers or others who are collecting or delivering medicines are aware of any important counselling points.

### *Repeat dispensing*

Repeat dispensing, which allows patients to obtain supplies of their regular medicines over a defined period of time without the need to contact their surgery, is particularly useful for older adults. As previously mentioned, many older adults have one or more chronic medical conditions that are likely to be stable for the length of the repeatable prescription. Given the potential benefits (reduced waste, cost, risk, and more efficient use of time and skills) the uptake of the service should be promoted. Processes should be implemented in GP Practices to identify patients and pharmacists should also give advice to suitable patients about the benefits of such a service.

### *Reviewing medication*

Readers are recommended to familiarise themselves with the NICE Medicines Optimisation pathway<sup>10</sup> where guidance on how to conduct a structured medication review is provided. Information on the specific 'Medicines Use Review (MUR)' community pharmacy service is available:

- England - Pharmaceutical Services Negotiating Committee (PSNC)  
[<http://psnc.org.uk/services-commissioning/advanced-services/murs/>]
- Wales - Community Pharmacy Wales [http://www.cpwales.org.uk/Contractors-Area/Pharmacy-Contact---Services/Advanced-Services/MUR-s.aspx]
- Northern Ireland - Business Service Organisation (BSO)  
[http://www.hscbusiness.hscni.net/services/2427.htm]
- Scotland's 'Chronic Medication Service' (rather than the MUR service) – NHS Scotland  
[http://www.communitypharmacy.scot.nhs.uk/core\\_services/cms.html](http://www.communitypharmacy.scot.nhs.uk/core_services/cms.html)

Older adults continue to be a growing and important demographic, who have much to benefit from pharmacist-led interventions and expertise. Within an NHS with limited resources, it is important that safe and effective drug use exists in all age-groups, but especially among those who are at greatest need of pharmaceutical care.

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